



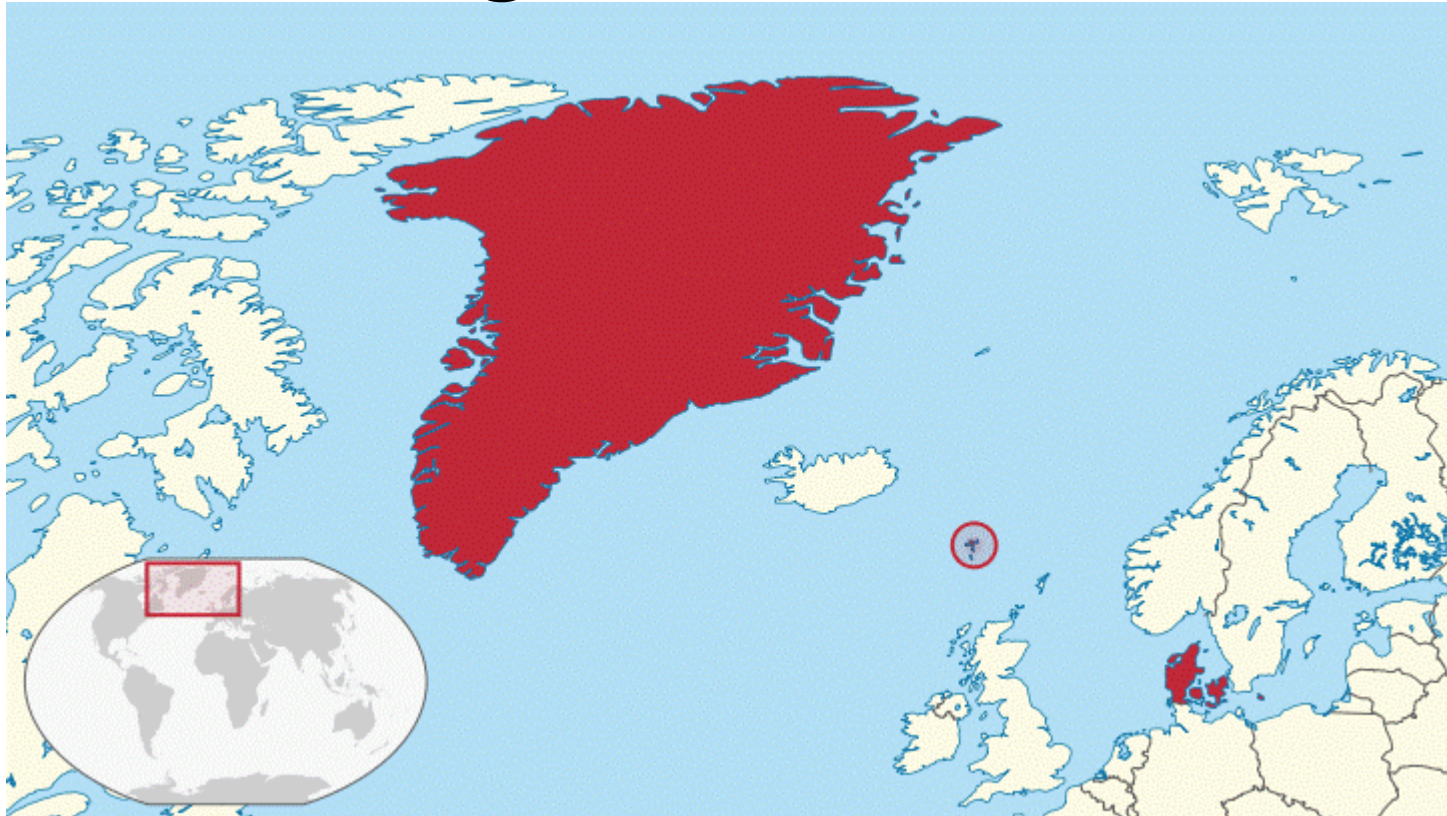
# **The Kingdom of Denmark's Challenges & Opportunities in the Arctic**

**6th Symposium on the Impacts of an Ice-Diminishing  
Arctic on Naval and Maritime Operations 2015**

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Royal Danish Embassy  
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# The Kingdom of Denmark



The impact of the diminishing ice on the operational environment  
Seen from the perspective of the Danish Defense



# TASKS

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## JOINT ARCTIC COMMAND

- **Military defense of Greenland and Faroe Islands**
- **Surveillance and maintenance of territorial sovereignty**
- **Search and Rescue**
- **Anti-pollution and oil spill recovery**
- **Police support**
- **Fishery Protection**
- **Hydrographical surveys of Greenland**
- **Support to local communities**



# Analysis of the Danish Ministry of Defense's Future Missions and Tasks in the Arctic.



Identify future tasks and needed capabilities within Joint Arctic Command Area of responsibility and interest.



Serve as basis for future initiatives within the present Defense Agreement and in relation to future defense agreements.



The results of the analysis will be put down in a report which will include recommendations of possible ways and means to strengthen the Ministry of Defense's operations in the Arctic.

## **Whole of Government (Kingdom) Approach**

Greenland and the Faeroes, 30+ departments and agencies, 130+ analysts





# Mission-areas in the analyses

- Surveillance (land, sea, air, sub-surface)
- Upholding sovereignty
- Search and rescue
- Pollution control/oil spill response
- Safety at sea
- Support to civilian society
- Local recruiting
- Organizing volunteers
- Tests and trials



# Our mandate

Recommend within **which areas** and at **what pace** the Ministry of Defence's engagement in the Arctic **shall be strengthened** including looking at:

- Potential new operational tasks
- Infrastructure
- Logistic support
- Command and control systems
- Communications systems
- Training and education
- Involvement of local population
- Cooperation with other ministries and agencies
- Cooperation with relevant Arctic nations
- Cooperation with civilian stakeholders
- Satellites
- Aircraft incl. fighters
- Unmanned Aerial Vehicles
- Data processing and exchange
- Maritime survey and mapping
- Conducting test and trials to compliment the analysis





For each mission-area:

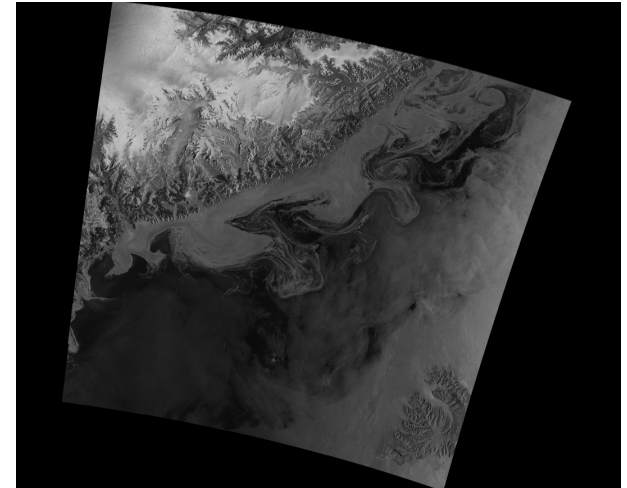
- Future task
- Future level of ambition
- Propose needed capabilities

# Tests and trials

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3 Phone Lines Internet Access





# Recommendations



- Initiatives recommended to be implemented in the period 2015-2017
- Initiatives recommended to be implemented in the period 2018-2027
- Recommended initiatives outside the Danish Ministry of Defence's area of responsibility
- Perspectives – recommendations for further analysis

# Analysis concerning the Danish MOD's future tasks in the Arctic

Flow chart for analysis and recommendations

## Comprehensive analysis design

### Operational tasks

Ensuring and maintaining sovereignty

Land  
Sea  
Air  
Sub surface

Support to the civilian society

Fishery inspection  
  
Others:  
EOD  
Support to the police  
Science  
Transportation of patients  
Medical assistance  
VIP transport

Search and Rescue

Maritime SAR  
Aeronautical SAR  
Successive operations

Maritime Environmental Protection

Surveillance  
Response capabilities

Safety at Sea

Survey  
Reporting systems  
Safety control  
Ice service  
Notice to mariners  
MAS

Every subject under each operational task will undergo a separate operational analysis including identification of level of ambition and means to reach the ambition.

### Operational analysis

Strategic analysis  
  
External analysis and reports  
  
Lessons from operations, exercises, trials and demonstrations  
  
Comparison with other nations  
  
Initial conclusion  
Development and trends  
  
Ability to meet the current operational requirements

### Partial conclusion

Level of ambition to meet the future operational tasks  
Including change concept

Involvement of Greenland and the Faroe Islands

Service in Greenland and the Faroe Islands

Bespoke analysis

### Ways and means

Domain awareness  
  
New concepts for utilizing existing capabilities  
  
Cooperation:  
- Within the Kingdom  
- Across government  
- Bilateral  
- Int. organizations  
  
Procurement  
  
Operational response capabilities  
Same structure as above  
  
Command, Control and Communication  
Same structure as above

Infrastructure and logistics

Same structure as above

Education and training

Same structure as above

**Partial conclusion**  
concerning identified ways and means to meet level of ambition

### Synthesis

All identified ways and means are held up against and prioritized by the criteria listed below in an overarching synthesis.

Strategic trends  
  
National priorities  
  
Different past in the development of the operational tasks  
  
Economy  
Cost benefit analysis  
  
Dual use  
Ability to be used for more than one army (incl. strength outside the Danish Ministry of Defense)

Operational effectiveness and flexibility  
Ability to accomplish the task and ability to be used for other purpose incl. non Arctic

Feasibility and common sense

Synergy in the support chain  
- Infrastructure and logistics  
- Education and training

The suggested initiative fails to meet the criteria in comparison with the rest

### Conclusions and recommendations

On the basis of the synthesis recommended ways and means to meet the future operational tasks in the Arctic are grouped into four categories

Initiatives which are recommended to be implemented in the period 2015 - 2017

Initiatives which are recommended to be implemented in the period 2018 - 2027

Recommended initiatives outside the Danish Ministry of Defense's area of responsibility

Perspectives

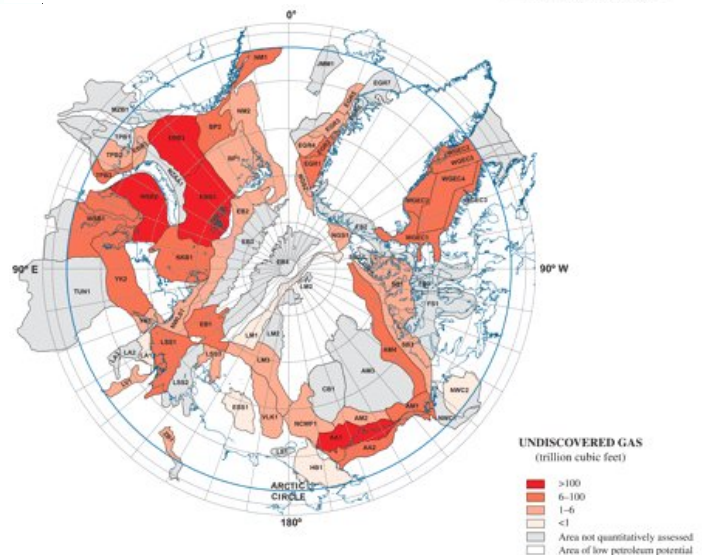
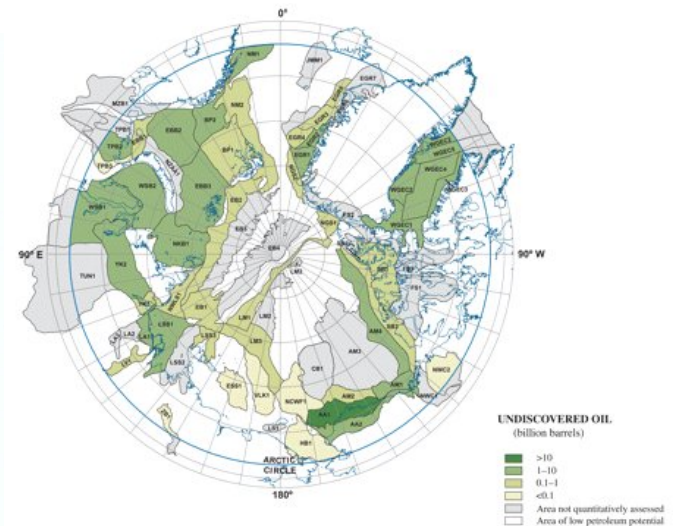
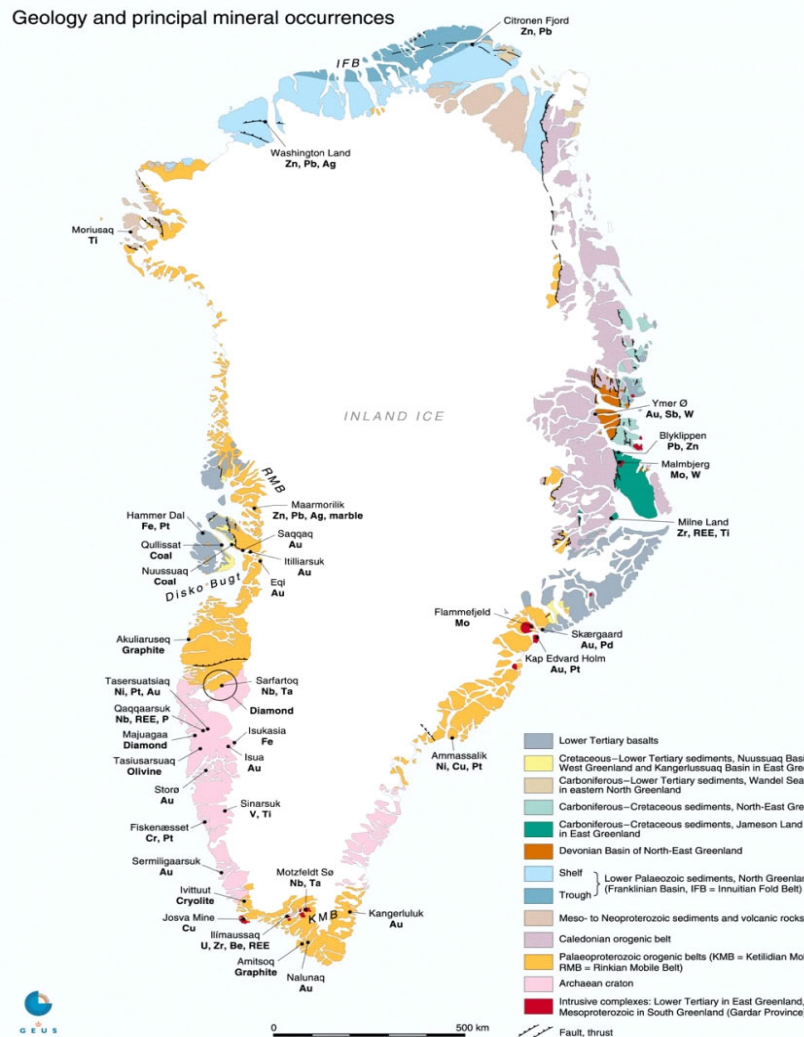
Development of detailed project plans and business cases



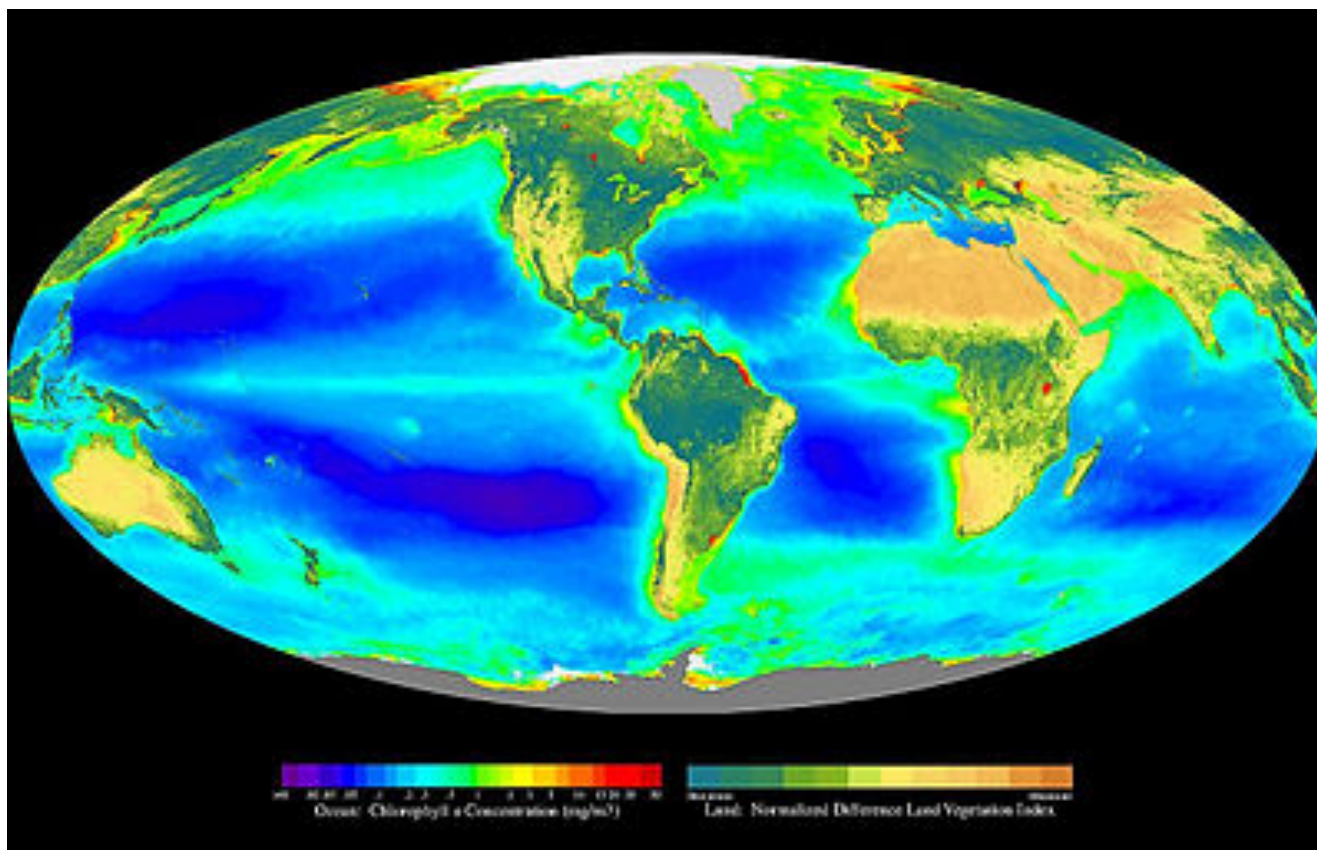
# Potentials



Geology and principal mineral occurrences



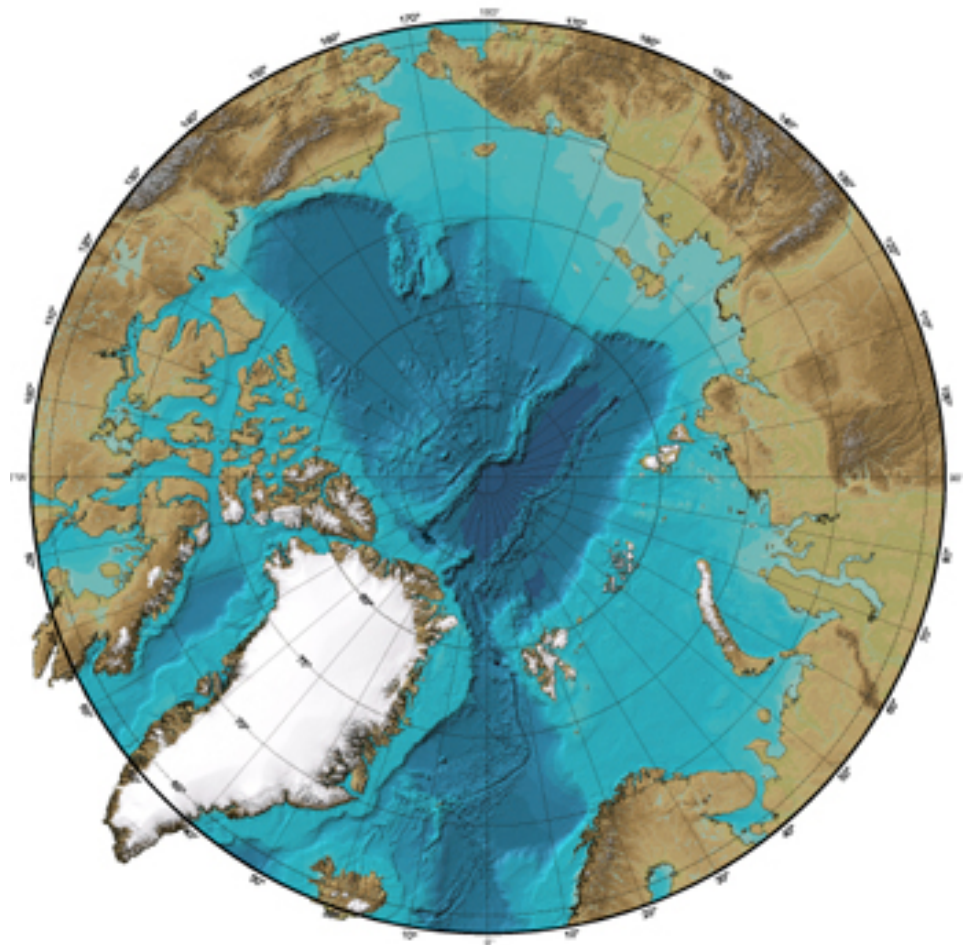
# Potentials





# Potentials

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# Economic opportunities in the Arctic



# With great opportunities comes great responsibilities







# Diminishing ice

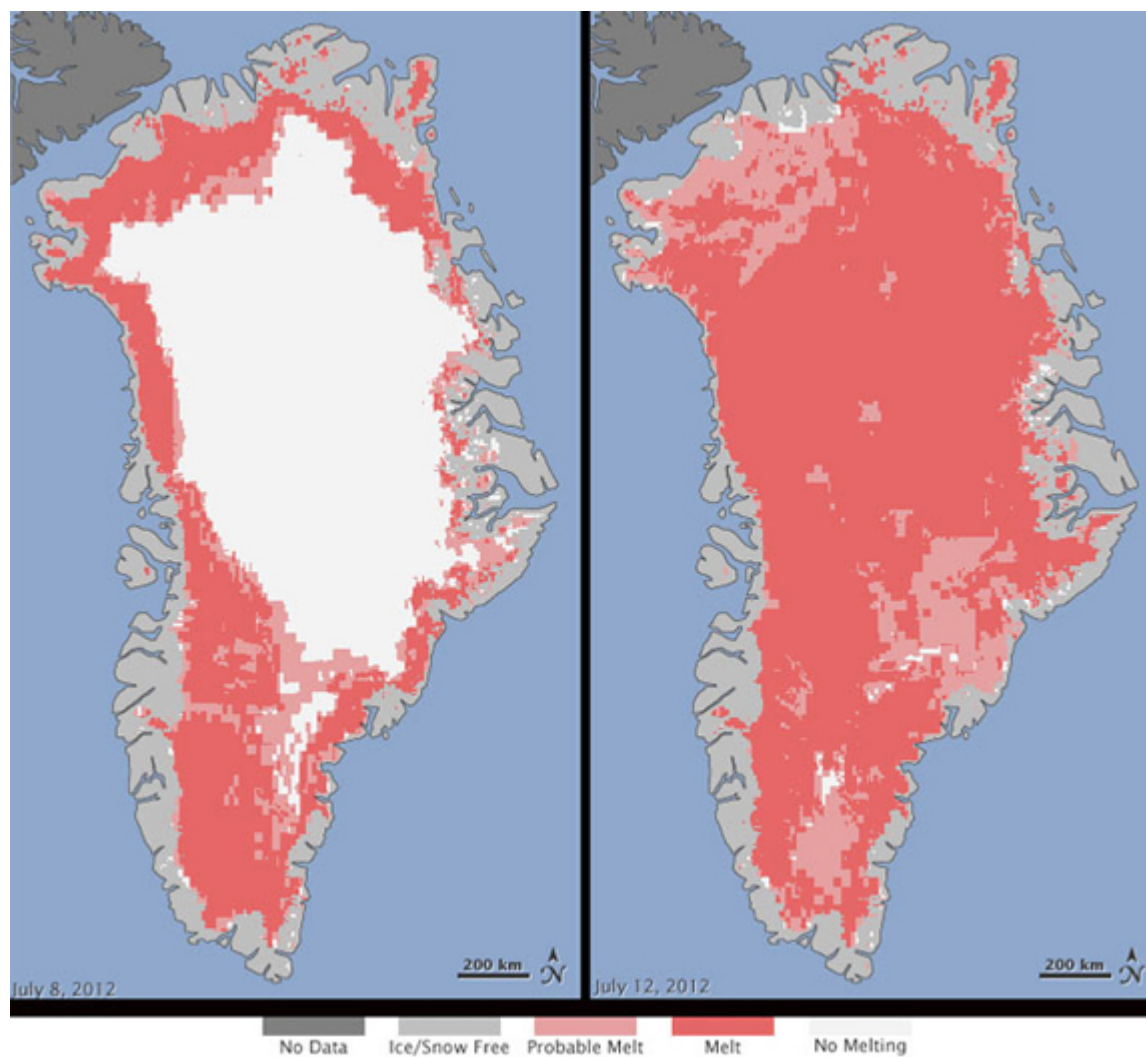
## Impact on Danish Defence Operations in the Arctic



# The Ice-Diminishing

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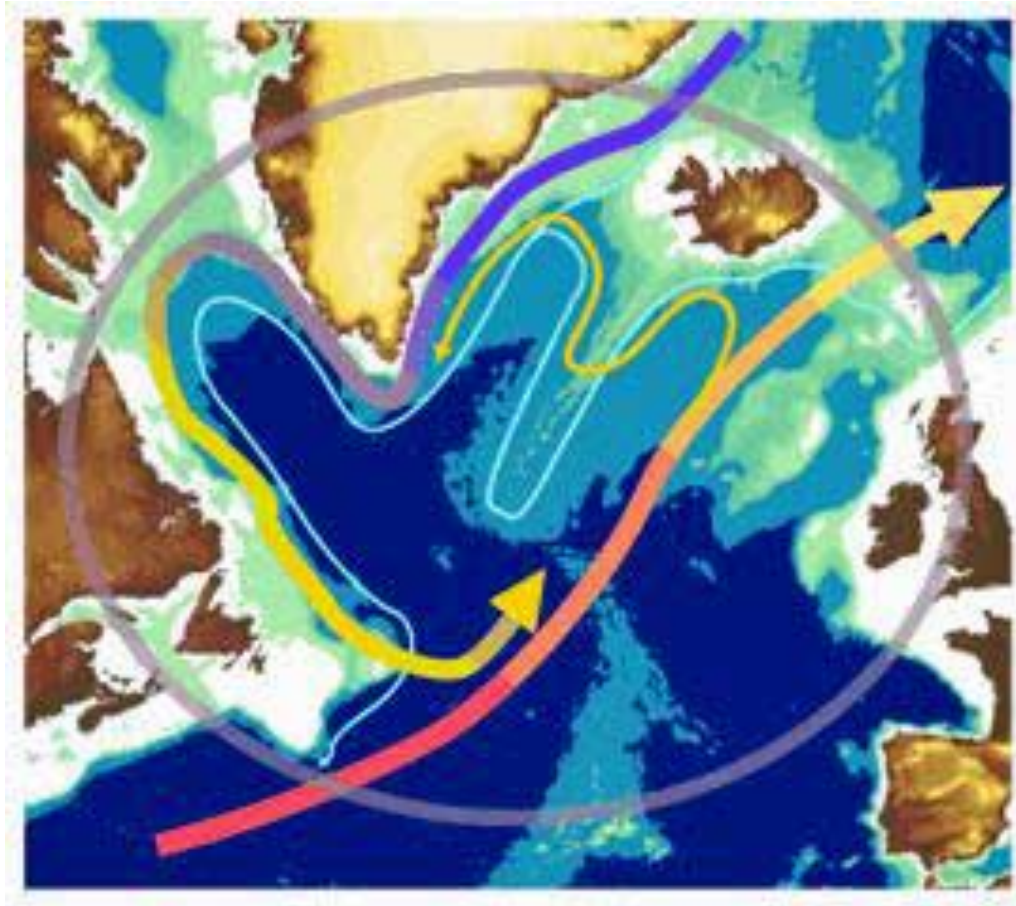






# The North Atlantic Gyre

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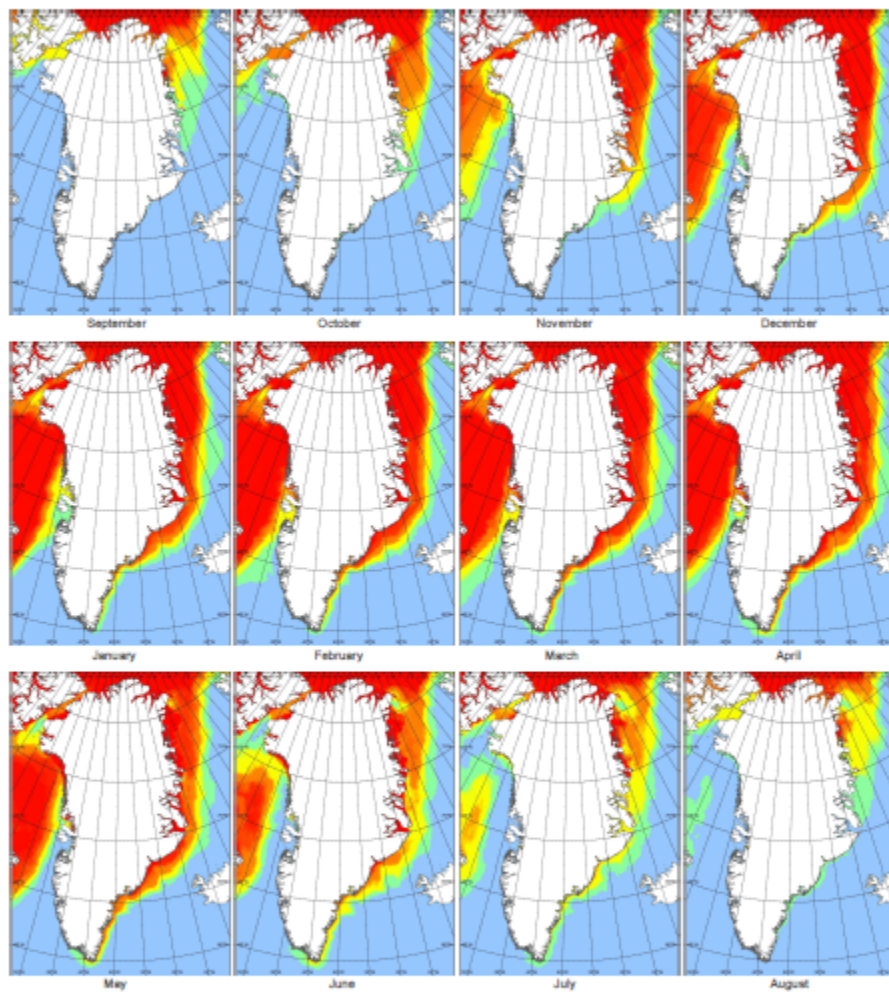




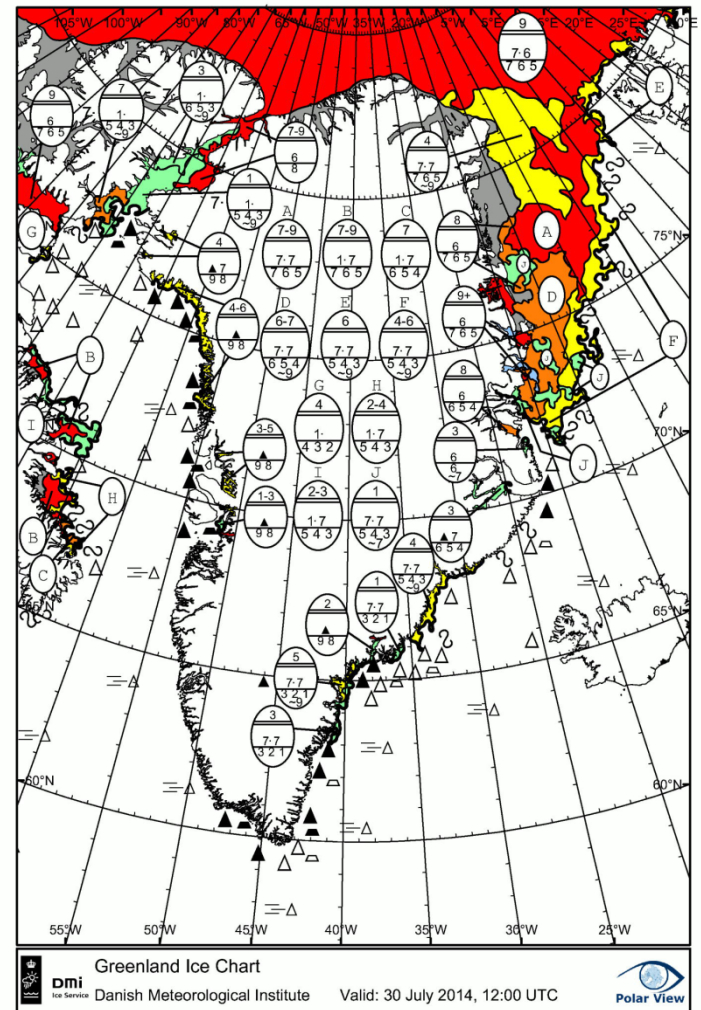
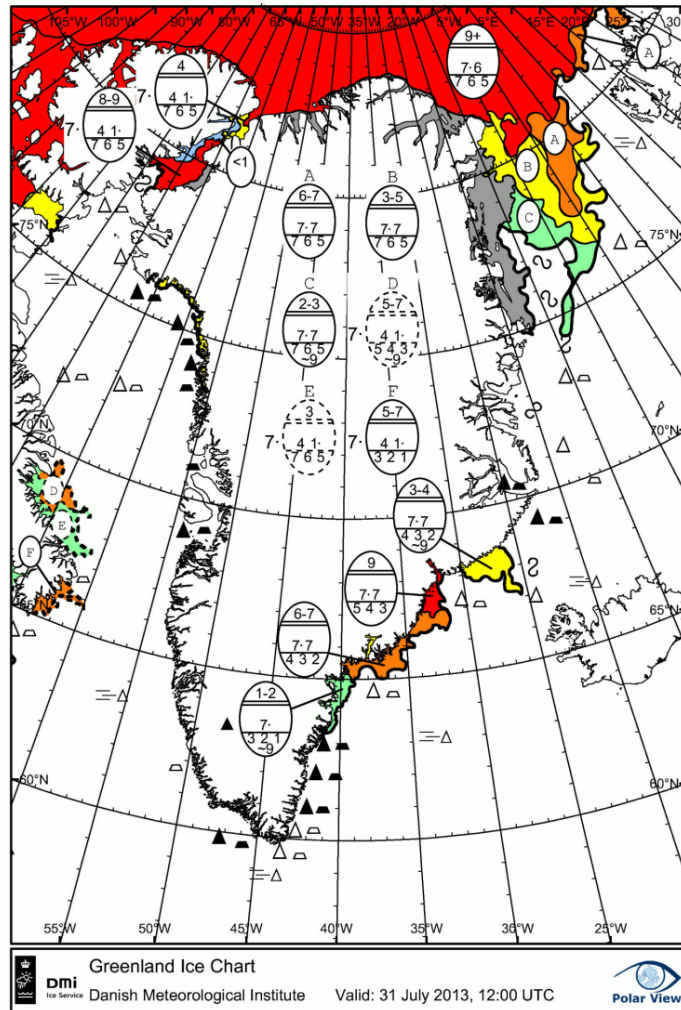
# Ice around Greenland

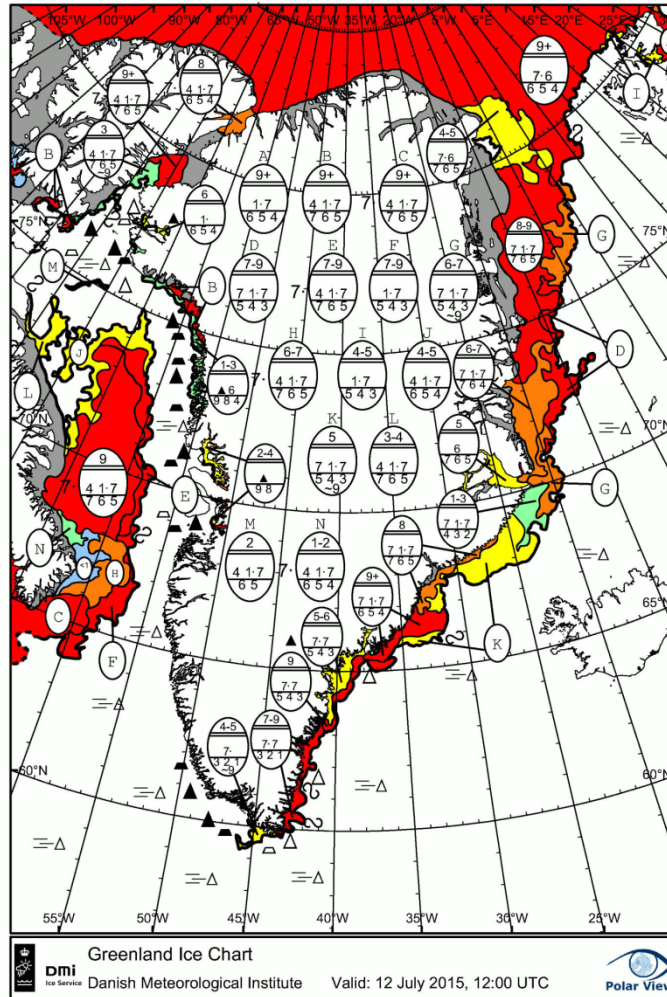


Monthly Mean Ice Concentration  
from Greenland Overview Ice Charts 2000 - 2010



# Late July 2013 vs. 2014





# Observations



- Changes in the operational environment in the maritime domain of Greenland is not happening as quickly as we initially thought
- Consequently the diminishing ice in Arctic as a whole has so far had limited impact on the activities in and around Greenland
- Commercial activities in Greenland are very sensitive to changes in and expectations to the world's market prices
- In the short term tourism and fishery hold the greatest economical potentials
- Due to the unpredictability in the changes in the activities in and around Greenland and a limitation in resources the Danish Defense's future capabilities in the Arctic will have to be very flexible in every possible way
- To support and enable this flexibility Maritime Domain Awareness and communication will be paramount for future operations in the Arctic
- Great potentials in achieving a higher operational effectiveness and flexibility lie within the ability to identify opportunities of cross agencies national and international cooperation

Thank you for your attention

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2020: THE TERRITORIAL DISPUTE OVER HANS ISLAND IS RESOLVED  
BY THE MELTING OF THE ARCTIC ICE CAP.



